System Energy Efficiency Plan (SEEP) 2019-2025

Orange and Rockland Utilities, Inc.
Revised: October 2, 2023

Cases 15-M-0252, 18-M-0084

Contents

1. Executive Summary

Orange and Rockland Utilities, Inc.("O&R" or the "Company") submits this System Energy Efficiency Plan ("SEEP") to provide a program plan for 2023-2025 consistent with the initiatives described in the Public Service Commission's ("Commission") *Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025*, issued January 16, 2020 ("January Order")[1] and the Commission's Order in the Reforming the Energy Vision ("REV") proceeding.[2] The January Order adopted the statewide energy efficiency ("EE") target of 185 TBtu by 2025. This SEEP similarly supports the Climate Leadership and Community Protection Act ("CLCPA") goals of 70 percent of New York's electricity supply being generated by renewable sources by 2030 and 100 percent emission free electricity supply by 2040. The programs and initiatives described in this document contain O&R's EE and demand reduction initiatives as well as additional initiatives and EE opportunities advanced through the Company's non-wires alternative ("NWA") solutions, beneficial electrification, low and moderate income ("LMI") programs, and targeted opportunities for customers located within disadvantaged communities ("DACs"). Although the Company's Dynamic Load Management ("DLM") Programs are coordinated with SEEP initiatives, per the SEEP guidance ("Guidance Document"),[3] they are not included in this filing because they do not have EE components.

The Company's 2019-2022 performance exceeded energy savings targets and expended less than the approved budgets found in the January Order. In response to changes to residential lighting baselines in accordance with the Energy Independence and Security Act of 2007, the Company will discontinue all residential lighting offerings beginning in 2024 and plans to increase midstream and custom commercial and industrial ("C&I") program efforts to continue to meet the targets with approved budgets found in the January Order. Additionally, the Company plans to expand current weatherization and envelope improvement programs to refine program design and stimulate market activity. To date, savings and expenditures from weatherization projects have made up a small portion of the Company's EE portfolio. These program enhancements will help to proactively familiarize customers, contractors, and trade allies on weatherization opportunities, which will serve as an important pillar of future EE portfolios, as directed in the *Order Directing Energy Efficiency and Building Electrification Proposals*, issued July 20, 2023 ("July Order").[4] For example, the Company's Marketplace is expanding to include additional electrification and envelope offerings in late 2023 and early 2024 to begin to transition the Company's portfolio to more strategic measures as described in the July Order.

To date, the Company has continued to expand its EE portfolios, engaging customers on a more personal level. The Company created a personalized heat pump video, utilizing the customer's historical usage to

[1] Case 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Initiative*, Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued January 16, 2020).
[2] Case 14-M-0101, *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision*, Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015), p. 133.
[3] DPS Office of Markets and Innovation, Clean Energy Guidance CE-02: SEEP Guidance, September 1, 2020.
[4] Case 14-M-0094, *Proceeding on Motion of the Commission to Consider a Clean Energy Fund*; Case 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Initiative,* Order Directing Energy Efficiency and Building Electrification Proposals (Issued July 20, 2023)

highlight the benefits of clean, renewable electrification for heating and cooling. This video, along with a Heat Pump Calculator, provides customers with an intuitive tool that informs potential electrification upgrades and increases awareness of why heat pump technologies are a superior alternative to fossil fuel technologies. In addition, the Company is using granular AMI data to enhance its EE and DLM programs and customer experience, utilizing advanced modeling software to better identify and target customers that could benefit from energy efficient solutions. In Q2 2023, the Company launched its first iteration of a C&I Propensity Model. This model interfaces with both the Company's billing system and Demand-Side Management ("DSM") tracking software, providing a user-friendly, flexible tool that can identify which customers have previously participated in energy efficiency programs and are likely to participate again with deeper, more strategic upgrades. In addition, the Company can conduct targeted analysis to identify customers with high energy usage and peak demand, poor load factors, and other inefficiencies using a variety of other important metrics. Targeted analysis like this focuses the Company's efforts on high value projects with opportunities to upgrade to efficient technologies.

Additionally, weekly energy reports are emailed to customers along with high bill alerts to help manage their usage, along with a link to view their hourly data. The detailed near-time information from these weekly reports helps customers better manage their energy use, allowing customers to reduce their energy bills by shifting energy use to time periods when prices are lower and by reducing overall consumption. These weekly reports help drive customers directly to O&R's program website and Customer Engagement Marketplace Platform ("CEMP," "MY ORU Store," "myorustore.com." or "Marketplace"), increasing participation within the residential portfolio.

The Company integrates its DSM programs and offerings to address the needs of customers, including LMI customers and customers located in DACs, utility operations, and the distributed system platform ("DSP") envisioned by the REV proceeding. O&R is integrating EE, permanent demand reduction, demand response ("DR") programs, NWAs, and beneficial electrification programs into a single regulatory framework that enables a customer-oriented approach to achieve greater penetration of distributed energy resources ("DERs") throughout the Company's territory. This will be done over the next several cycles of SEEP filings that, in conjunction with O&R's Distribution System Implementation Plan ("DSIP") filings,[5] will support the REV goals of providing customers with the information and opportunity to take control of their energy use, providing a more modern and resilient grid, and integrating clean energy.

O&R is coordinating with other New York State utilities and New York State Energy Research and Development Authority ("NYSERDA") administered clean energy programs. Specifically, the utilities and NYSERDA have filed the Statewide Low- and Moderate-Income Portfolio Implementation Plan on November 1, 2022, and the NYS Clean Heat Statewide Heat Pump Program Implementation Plan on September 1, 2023, in Case 18-M-0084. These statewide efforts will help LMI customers achieve energy affordability and support beneficial electrification initiatives to meet the energy needs of all New York customers.

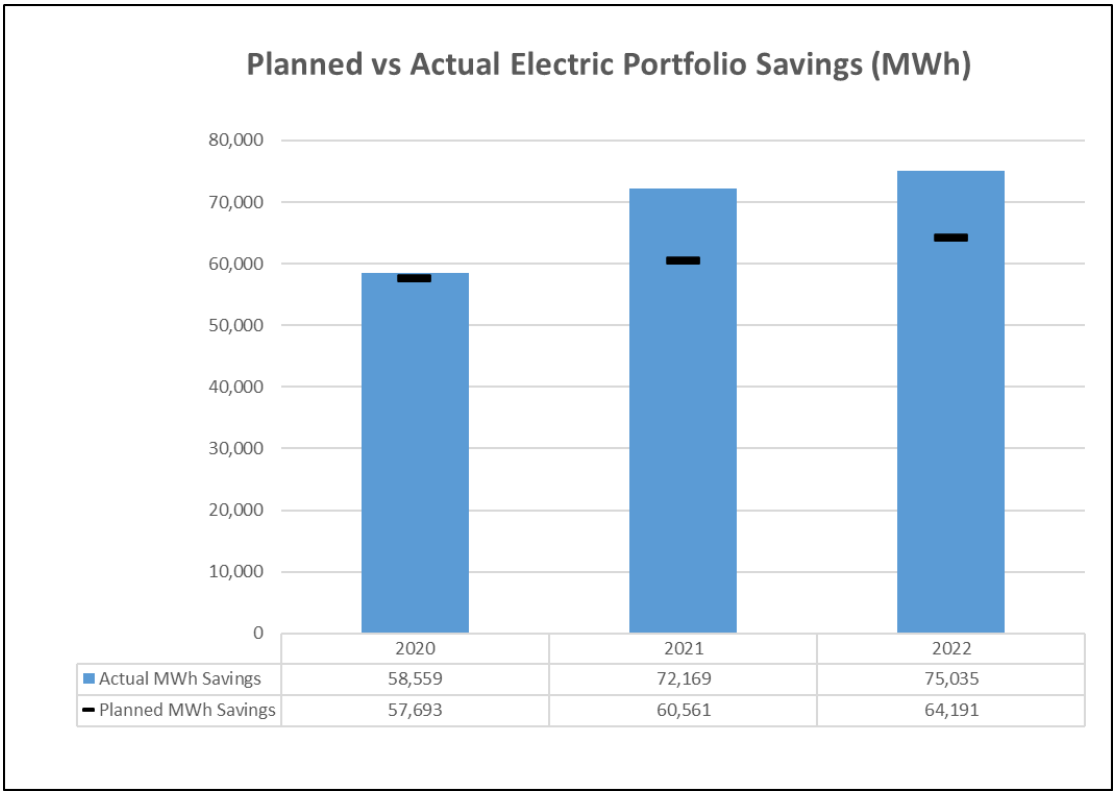
2. NENY EE Portfolio Description

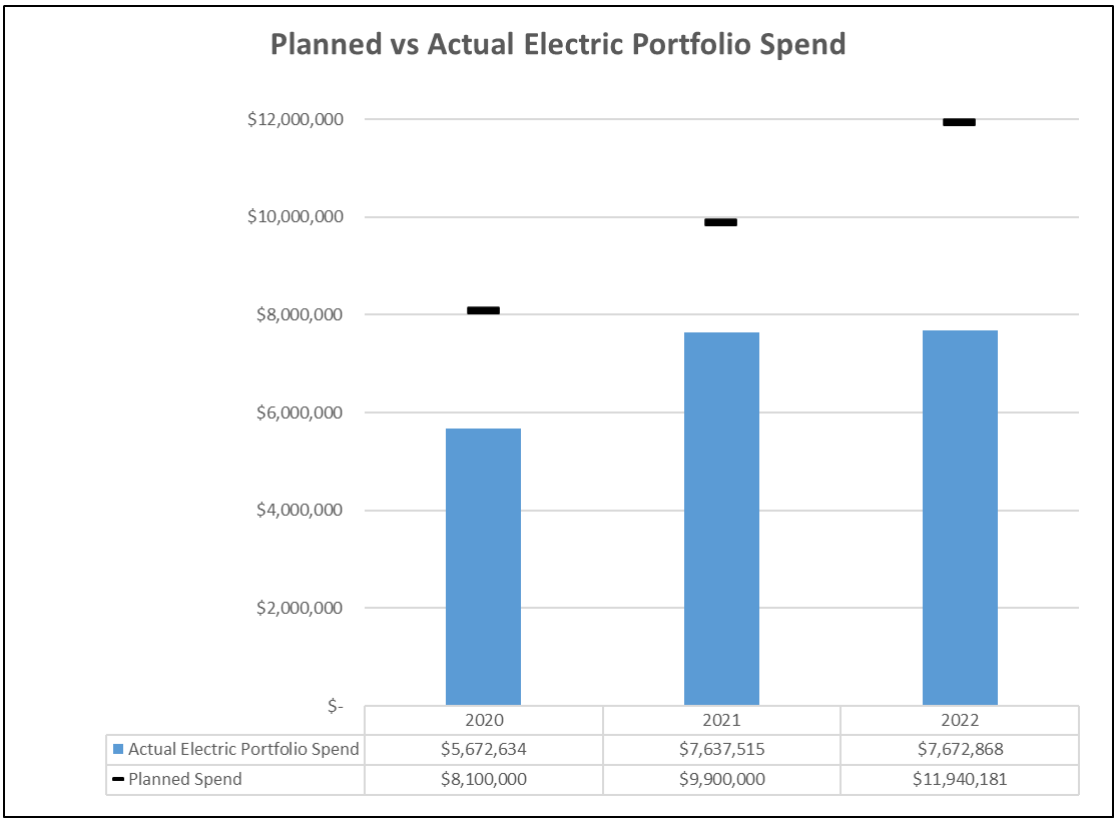
[5] Case 14-M-0101, 16-M-0411, O&R's DSIP, filed June 30, 2020.

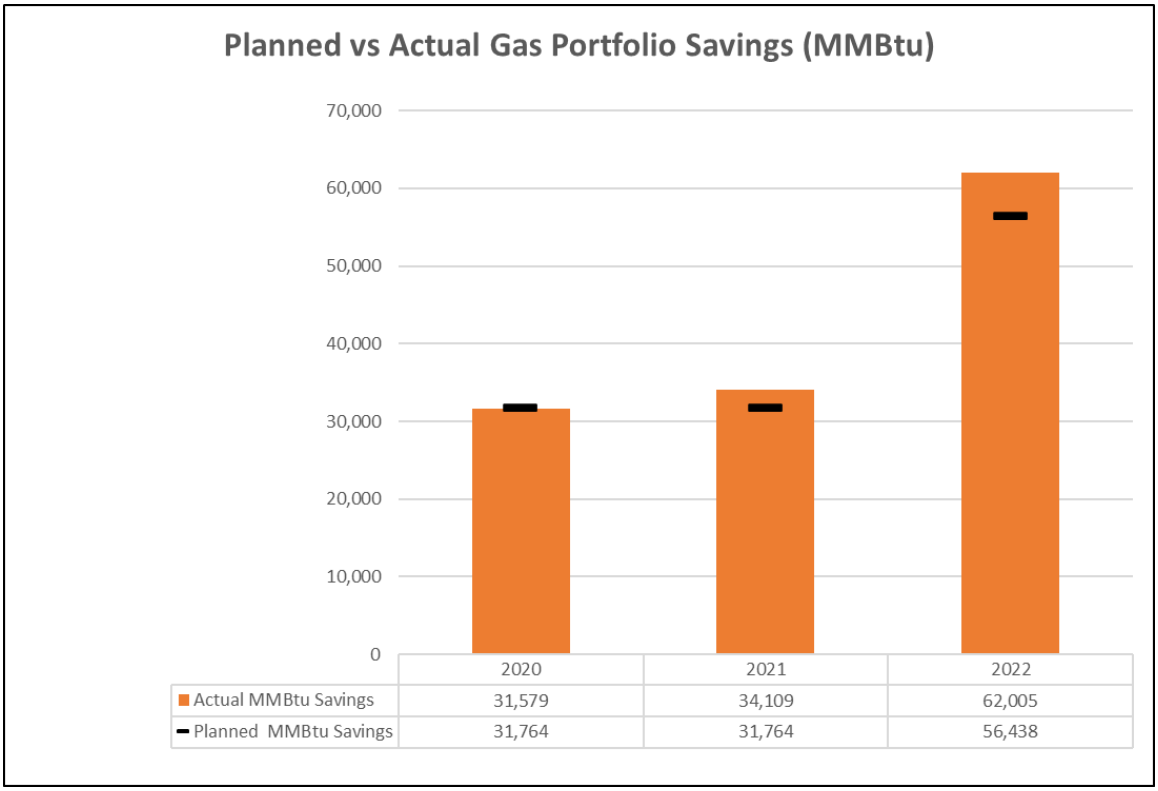
O&R continues to expand its existing electric and gas portfolio to achieve the energy targets found in the January Order. The Company is administering clean energy initiatives, including the NYS Clean Heat Program[6] and the LMI program.[7] The statewide partnership, including NYSERDA, will expand the penetration of clean heating and cooling equipment across residential and commercial market segments and provide whole home space conditioning solutions. The LMI plan will expand the reach of free direct install EmPower+ subprogram by using O&R's unique customer relationship as the trusted energy advisor, while enhancing program offerings and increasing participation for this hard-to-reach community. In addition to the comprehensive EmPower+ and Affordable Multifamily Energy Efficiency Program, the Company is conducting targeted outreach to this hard-to-reach segment including an LMI expansion of the Marketplace and food bank offerings. O&R collaborates closely with NYSERDA on the implementation of the LMI program including partnering with the Hudson Valley office of the Regional Clean Energy Hub. The Company continues to coordinate its EE efforts with its DR initiatives, NWA solutions, non-pipeline solutions, REV demonstration projects, beneficial electrification, and AMI. Broadly, these SEEP initiatives can be segmented into residential and commercial initiatives. O&R is implementing educational and engagement components for residential customers in coordination with DR programs approved by the PSC.[8] These include partnerships with Veolia North America (formerly SUEZ), the local water utility, and Boces P-Tech.

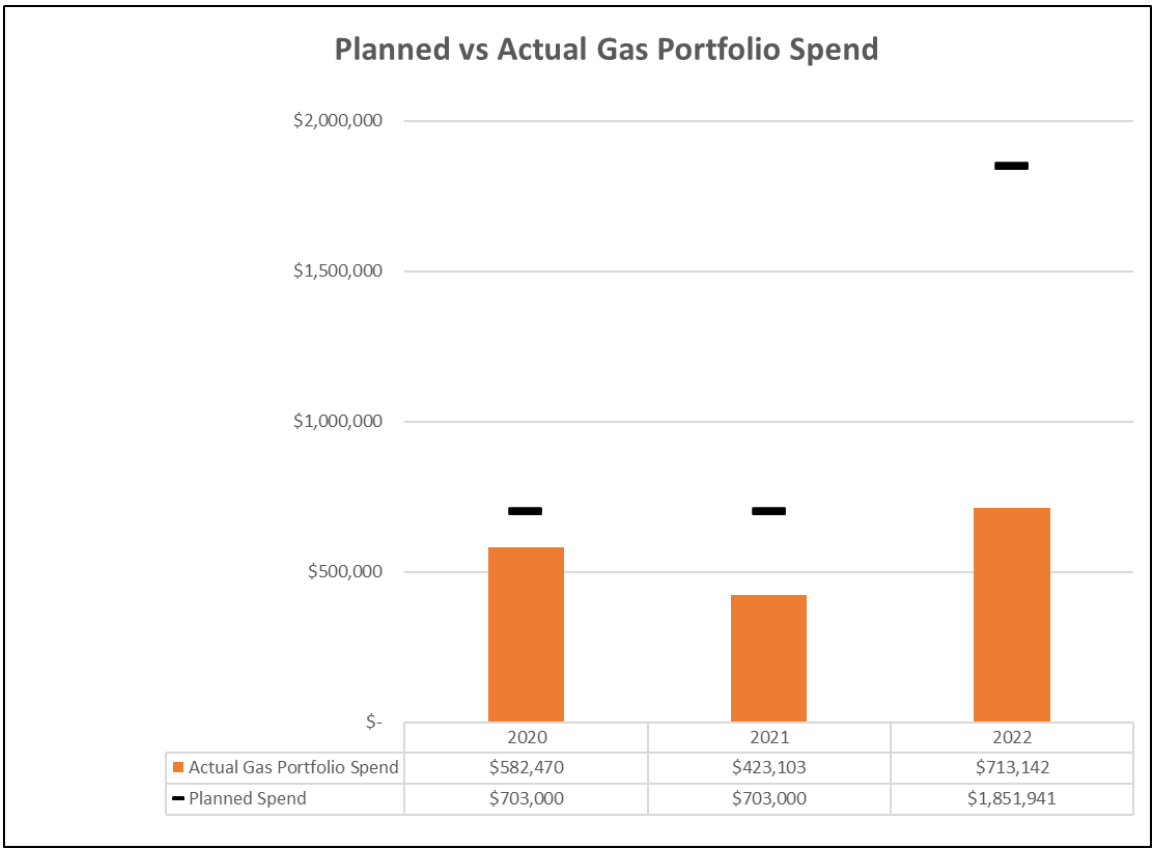
The charts below show historical performance, including planned vs actual savings and expenditures for both the electric and gas portfolios from 2020 – 2022.

[6] See filing. NYS Clean Heat: Statewide Heat Pump Program Implementation Plan, filed March 16, 2020, updated April 30, 2020, July 1, 2021, September 1, 2022, in Case 18-M-0084.
[7] See filing. Statewide Low- and Moderate-Income Portfolio Implementation Plan filed in Cases 18-M-0084 and 14-M-0094 on July 24, 2020, April 29, 2022, August 15, 2022, and November 1, 2022.
[8] Case 14-E-0423, *Proceeding on Motion of the Commission to Develop Dynamic Load Management Programs*, Order Adopting Dynamic Load Management Filings with Modifications (issued June 18, 2015).


Planned vs Actual Electric Portfolio Savings (MWh)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2020
2021
2022
Actual MWh Savings
58,559
72,169
75,035
Planned MWh Savings
57,693
60,561
64,191


Planned vs Actual Electric Portfolio Spend
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$-
2020
2021
2022
Actual Electric Portfolio Spend
$5,672,634
$7,637,515
$7,672,868
Planned Spend
$8,100,000
$9,900,000
$11,940,181


Planned vs Actual Gas Portfolio Savings (MMBtu)
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2020
2021
2022
Actual MMBtu Savings
31,579
34,109
62,005
Planned MMBtu Savings
31,764
31,764
56,438


Planned vs Actual Gas Portfolio Spend
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
2020
2021
2022
Actual Gas Portfolio Spend
$582,470
$423,103
$713,142
Planned Spend
$703,000
$703,000
$1,851,941

O&R's strong relationships with its customers has helped drive the Company's success in exceeding NENY targets. For example, the C&I Program continues to exceed its goals as several large customers have repeatedly participated in this program, with some moving beyond lighting to more comprehensive projects that include building management and HVAC systems. Many customers have identified opportunities for deeper energy retrofits by utilizing personalized energy reports, providing a holistic view of the building's energy usage. Granular insight into hourly load data can also help identify opportunities to participate in both EE and DR programs, enabling customers to capitalize on additional revenue streams while reducing operating costs. Customers view O&R as a reliable energy expert that provides accurate information.

O&R's Marketplace remains a critical component in the Company's residential EE portfolio. The My ORU Store provides customers with a one-stop shop to purchase energy-efficient products online with instant rebates applied at the time of purchase. Custom offers, instant incentives, and manufacturer discounts have allowed customers to find affordable products to help them better manage their energy use. Through a multi-channel marketing approach, including targeted personalized emails, customers are made aware of the variety of products and programs that can help them reduce their consumption and lower their energy bills. In Q4 of 2022, the My ORU Store completed a platform expansion to better serve the LMI and small business segments.

Beyond LED lighting, energy savings products including smart thermostats, dehumidifiers, air purifiers, advanced power strips, and low flow devices are rebated instantly at time of purchase. The Company anticipates expanding product offerings to meet the needs of customers and advance clean energy goals, including the addition of heat pump hot water heaters and envelope improvement products. The My ORU Store also connects customers with home service providers through the safety and convenience of a digital platform. The platform offers links to a solar and storage marketplace providing free online assistance to customers interested in solar and/or battery storage equipment. Customers are provided with a solar and storage expert who can guide them through the entire process from inquiry to installation. The Company continues to collaborate with Veolia to offer mutual customers combined rebates on water and energy saving measures sold on the My ORU Store, raising awareness of water and energy conservation among the residential customer segment. Customers are increasingly investing in EE because they realize the positive impact to their bottom-line while simultaneously supporting their environmental and sustainability efforts.

In partnership with NYSERDA, the Company launched an EV managed charging pilot program with Uplight and Enel X designed to provide instant rebates to qualified customers when they purchase select Wi-Fi enabled EV charging stations from the My ORU Store and enroll in the Charge Smart Program. This innovative initiative automatically charges a connected EV during times of the cleanest power generation, decreasing the amount of greenhouse gas emissions and supporting the State's clean energy goals. Although the pilot has ended, the Marketplace continues to support electrification by expanding the variety of EV chargers offered and promoting the newly launched Smart Charge program which helps drivers earn financial incentives for charging their EV during off-peak times. Additionally, the Company promotes air-source and geothermal heat pumps through its third-party partnerships on the Marketplace and anticipates expanding program offerings to include streamlined weatherization services.

The My ORU Store offers customer enrollment in Smart Savers, the Company's residential demand response or Bring Your Own Thermostat ("BYOT") program. If qualified, a customer can purchase a smart thermostat and enroll in the program at checkout to receive both the EE incentive and demand response enrollment bonus. By driving down the barriers of cost, customers are more readily adopting energy efficient technologies and behaviors. In 2022, the BYOT Program saw a 27% increase in enrollment compared to 2021, a direct result of this streamlined process.

3. NENY EE Program Descriptions

Residential Efficient Products Program

Program Design

The Residential Efficient Products Program targets energy savings throughout the residential electric customer base of O&R's service territory. The program provides rebates for ENERGY STAR® appliance upgrades, advanced power strips, LEDs, pool pumps, washing machines, dehumidifiers, air purifiers, smart thermostats, and recycling of refrigerators and freezers.

Customer incentives are designed to cover 50% of the incremental cost of the measure as this program targets equipment that has either failed or reached the end of its useful life and is being replaced. Higher incentives may be offered in NWA areas to defer capital investments and reduce system constraints. In addition to the traditional rebate application process for ENERGY STAR® appliance upgrades, the Marketplace provides instant rebates for energy efficient equipment at the point of sale to streamline the rebate process and promote ease of participation. In addition, the Marketplace incorporates an advisory suite to provide solutions to customers with personalized recommendations based on factors including price, energy savings, carbon emissions, personal preferences, and rebate eligibility. The Company partners with Sealed to provide customers with a free virtual or in-home audit and rebates for professionally installed insulation and energy savings measures. Veolia and O&R have also partnered to provide combined rebates for energy and water savings measures, including high efficiency showerheads and faucet aerators.

2022 CEMP Enhancements

- Promoted Sealed's weatherization services including the Climate Control Program, which facilitates the installation of residential cold climate heat pumps. Marketing campaigns tailored to promoting the benefits of electrifying home heating and cooling are sent to customers;
- Educated customers about solar power and energy storage as well as offering an online tool for customers to easily compare offers from pre-approved solar and energy storage providers. A personal energy advisor guides customers through the process and discusses the best solutions to meet their individual needs;
- Supported Company and State beneficial electrification goals by offering level 2 EV chargers and promoting the managed charging program, Smart Charge;
- Expanded energy saving measures including lighting, thermostats, air quality, and water-energy saving devices to provide customers a variety of options to choose from to meet their needs;
- Improved platform functionality including thermostat compatibility checker, enabling customers to determine the best model for their HVAC system before purchasing;
- Expanded the platform to serve small business customers by providing instant rebates on easy to install measures including lighting and smart thermostats;
- Provided low-income residential customers targeted offers and enhanced rebates to help reduce energy consumption and increase adoption of energy efficient technologies;

- Developed a comprehensive marketing media campaign to expand customer outreach and engagement through a variety of mediums including social, search, and digital in addition to the existing print and email channels; and,
- Bundled EE and DR incentives with manufacturer discounts on a variety of measures to lower up-front costs and reduce barriers to adoption of energy-efficient technology.

2023-2025 CEMP Enhancements
The Company is expanding the CEMP to LMI, DAC, and business customers. The CEMP expansion will increase participation in the existing residential and small business electric programs through:

- Enhanced offerings for LMI customers to receive targeted offerings and customized recommendations on how to reduce consumption and lower their energy bills, reducing cost barriers to facilitate participation in EE and DR programs;
- Targeted offers will be expanded to DACs, increasing adoption of energy saving measures among hard-to-reach demographics, helping to achieve the CLCPA requirement that 35% of clean energy and energy efficiency benefits accrue to Disadvantaged Communities;
- Expanded the platform to support business customers to obtain instant rebates for easy to install lighting products, smart thermostats, power strips and more;
- Integration of weatherization measures to increase customer savings and improve comfort;
- Develop a comprehensive marketing media campaign to expand customer outreach and engagement through a variety of mediums including social, search, and digital in addition to existing print and email channels;
- Broaden bundled enrollment eligible devices to increase BYOT participation, including integration with heat pumps;
- Complement with a heat pump installation concierge online service;
- Expand weatherization and electrification offers to include multiple vendors, creating a centralized hub for customers and vendors;
- Develop guides and advisors to provide information on beneficial electrification technologies such as cold climate heat pumps, geothermal, electric vehicles, weatherization, solar and battery storage including the newly developed Heat Pump Video.

These modifications will increase the capabilities of the CEMP, allowing it to become a one-stop shop for O&R's residential EE, LMI/DAC EE, business EE, renewable energy, beneficial electrification, DER, and DR offerings. Through the effective use of personalized data and payback scenarios, instant rebates, and potential financing, the Company will encourage customers to install more comprehensive measures across programs and fuel types.

Program Delivery Method

The CEMP supports stocking, promotion, and sale of high efficiency appliances by providing rebates for products whose efficiency levels are set at or above ENERGY STAR® specifications. Product incentives are offered directly to customers as an instant rebate at point of sale, and products are shipped directly to the customer's home. Local contractors are made aware of rebated appliances through regular communications to reinforce the energy savings message and increase the impact of direct incentives to accelerate the adoption of high efficiency appliances. Virtual in-home audits provide customers with energy savings recommendations and professional whole home solutions, including insulation, high

efficiency equipment, and smart home technology that save customers energy and money. The pick-up and recycling of appliances is performed by an implementation contractor.

Target Market/Customer Eligibility

Although the target audience is primarily residential customers, the expansion of the Marketplace has broadened its reach to business customers as well. Additionally, enhanced offerings are available to specifically benefit the LMI community and will be expanded to include and target DACs. The initiative will continue to consider a variety of marketing approaches to encourage both customer and trade ally participation, including retailers and distributors.

Coordination with Other Programs

O&R will coordinate this program with the remaining residential and commercial electric and gas programs, the BYOT Program, targeted NWA areas, the NYS Clean Heat Program, the Statewide LMI Program, and with the residential suite of electric programs offered by O&R's affiliate Con Edison of New York ("Con Edison").

Quality Assurance/Quality Control

Applications and tracking will include information necessary to verify that the customer and equipment information submitted meet the program qualification criteria. This includes confirming the customer account, eligibility information and sales data, including equipment make and model numbers, to meet rebate requirements. In addition, unique equipment serial numbers are verified to prevent multiple rebates being issued for the same equipment. O&R and/or third-party contractors will perform on-site verification inspections for at least ten percent of participants to confirm that equipment is purchased and installed as required to meet the program guidelines. Data tracking software streamlines rebate processing, increases productivity, and minimizes reporting inaccuracies.

Anticipated Project Timeframe

Residential upgrades often occur from equipment failure and therefore the pipeline for this program will be short with most equipment rebates and installations occurring within 90 days of application submission.

Residential Electric Midstream Program

Program Design

The Residential Electric Midstream Program launched in 2019 and targets energy savings in the residential electric customer base of O&R's service territory. The program provides rebates for ENERGY STAR® appliance purchases at retailers including LEDs, pool pumps, smart thermostats, circulator pumps, dehumidifiers, and air purifiers. In 2022, the residential electric portfolio achieved 43,182 MWh, or 135% of its 31,881 MWh goal, while spending $2,633,277 or 76% of its $3,450,764 budget.

Customer incentives are designed to cover 50% of the incremental cost of the measure as this program targets equipment that has either failed or reached the end of its useful life and is being replaced and may vary based on market conditions and limited time offerings. Higher incentives may be offered in NWA areas to defer capital investments and reduce system constraints. Since 2019, O&R has partnered with its affiliate, Con Edison, and an implementation contractor to implement a residential midstream program. By delivering incentives midstream, rather than through a customer rebate form, O&R receives the following benefits:

- Increased availability and distribution of LED lighting and appliances via partnerships with a select group of large distributors and retailers;
- Larger discounts for customers by paying the incentive before various supply chain markups are applied; and
- Seamless participation in the midstream program from the customer perspective.

The midstream incentive model leverages existing distributor networks and infrastructure to influence the thousands of equipment purchasing decisions that customers and contractors make every day.

In preparation for EISA standards going into effect,[9] the Company will seek to expand programmatic offerings beyond lighting and expects to discontinue all market-rate residential lighting rebates beginning in 2024. For the 2023-2025 period, O&R will continue to add EE measures to the midstream model and will engage with contractors, distributors, and our implementation contractors to identify opportunities.

Program Delivery Method

This program supports stocking, promotion, and sale of high efficiency appliances by rebating products whose efficiency levels are set at or above ENERGY STAR® specifications. This program is delivered via partnerships with trade allies, and retailers. Incentive levels are designed to reduce the differential between the efficient product and the baseline alternative. Program incentives are provided directly to the distributor or retailer so that these measures become the recommended solution. Marketing materials at participating retailers are co-branded to identify that the instant in-store markdowns are provided by O&R.

Target Market/Customer Eligibility

The target market for this initiative is O&R residential electric customers. However, residential style appliances are also used in business, so some participation from small business electric customers is expected. O&R continues to perform drive time analysis to identify retailers that would be eligible to serve customers within the service territory.

[9] https://www.regulations.gov/document/EERE-2021-BT-STD-0005-0034

Coordination with Other Programs

O&R will coordinate this program with the remaining residential and commercial electric and gas programs, the BYOT Program, targeted NWA areas, the NYS Clean Heat Program, the Statewide LMI Program, and with the residential suite of electric programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will work with its retailer/distributor partners so that only quality ENERGY STAR® or DLC certified bulbs and equipment are incentivized, and that the partner is able to track all measures purchased through the initiative. Energy savings products will be added to move rebates midstream, streamline customer participation, and to increase stocking patterns of energy saving equipment. The third-party implementation vendor visits retail locations regularly to verify that signage communicates O&R instant rebates to facilitate participation and tracks data points necessary to calculate energy savings for products rebated in midstream efforts.

Anticipated Project Timeframe

Midstream savings will be reported within 45 days of the sales transactions.

Residential Electric Behavioral Program

Program Design

The Residential Electric Behavioral Program launched in 2019 targets energy savings through recommended voluntary behavioral changes personalized to each customer. The primary method to reduce consumption is a home energy report ("HER"). This HER benchmarks customers' energy usage against their historical usage and similar homes in the area. This report also compares monthly energy usage and prompts consumers to reduce usage to improve against their previous month's usage and benchmark relative to their neighbors. Similar programs have been implemented throughout the country and have consistently produced a relatively small decrease in energy use for an individual customer. Aggregated across a large participant population, these small decreases produce significant overall savings.

Evidence also suggests that behavioral programs drive increased participation in other residential EE, renewable, beneficial electrification, and DR programs. An online portal through the digital customer experience platform allows customers to track near real-time and historical usage. By engaging customers, the Company expects to produce greater than average reductions and increase participation in other energy efficiency programs.

In response to COVID-19, the Company tailored messaging to customers working from home and provided recommendations to address the associated increased usage. HERs have also been tailored to promote EE and DR programs. Throughout 2022, O&R highlighted the NY Clean Heat Program in HERs to provide guidance to customers to determine if clean heat technology meets their needs. In Q3 of 2022,

HERs increased customer awareness of forecasted high winter supply prices and provided low cost-no cost tips to help customers manage their bill.

For 2023-2025, the behavioral initiative will continue to engage customers with targeted customized messaging and will promote EE, DR, and beneficial electrification programs by providing customers with enrollment information and application links to residential programs. O&R will explore the potential of expanding the behavioral platform to address DR with customers receiving texts or emails to curtail usage during peak system events.

Program Delivery Method

In 2019, O&R partnered with OPower, a third-party contractor with significant experience administering similar behavioral programs in other locations, for HERs. This behavioral initiative sends customers HERs both electronically via email and printed via direct mail and intends to change customer behavior. O&R coordinates with OPower to define the treatment and control groups, as well as the frequency and content of the mailings. Customers engage with the program via several channels:

- Direct mailings and electronic HERs benchmark energy use against prior usage and against similar homes usage;
- Web portal via the O&R website, showing near real time usage information; and
- Cross marketing, where engagement in the behavioral program is used to drive participation in other residential efficiency, renewable, and DR programs.

Target Market/Customer Eligibility

This program will target all residential electric and gas customers.

Coordination with Other Programs

O&R will coordinate this program with the remaining residential and commercial electric and gas programs, the BYOT Program, targeted NWA areas, the NYS Clean Heat Program, the Statewide LMI Program, and with the residential suite of electric programs offered by Con Edison.

Quality Assurance/Quality Control

O&R will provide quality assurance on claimed savings by using the control group to quantify the savings of the treatment group. This is performed using an industry accepted methodology. If total savings, as measured by the impact evaluation comparing the control and treatment groups, are falling short of expected results, O&R will work with the vendor to improve performance and examine other alternatives or enhancements to the program.

Anticipated Project Timeframe

Because usage from the target and control groups must be compared to calculate the behavioral savings, reconciliation reporting will take 90-120 days.

Residential Gas HVAC Program

Program Design

The Residential Gas HVAC Program targets energy savings throughout the residential customer base of O&R's service territory. The program provides rebates for ENERGY STAR® space heating and water heating appliance upgrades, weatherization upgrades, and low flow devices. Trade allies are integral to the success of the gas program and are made aware of program eligibility and rebate levels through newsletters, direct contractor outreach, and webinars. In 2022, the residential gas portfolio achieved 147% of its 36,981 Dth goal, or 54,278 Dth, while spending $472,634 or 46% of its $1,037,642 budget. Instant rebates available through the CEMP accelerated the purchase of energy efficient equipment and contributed 20% of the Company's total gas portfolio savings.

Incentives are designed to cover 50% of the incremental cost of the measure as this program targets equipment that has either failed or reached the end of its useful life. The Statewide Clean Heat Program has impacted the installation of efficient fossil fuel equipment and as a result savings from gas heating upgrades have declined.

The CEMP contributes to the program's success by pairing manufacturer and DR rebates with EE rebates to reduce the cost of Wi-Fi thermostats and other energy efficient measures. Streamlining the rebate process, which allows eligible customers to pair electric, gas, and demand response rebates at the point of checkout, has vastly improved the customer experience and driven adoption. As a result of these bundled rebates and increased outreach, Wi-Fi thermostat sales increased by 12% in 2022 compared to 2021.

In 2020, O&R transitioned to a gas midstream program to incentivize the purchase of energy efficient heating and water heating equipment for both residential and C&I customers. A third party implements the program by moving rebates midstream to engage HVAC distributors and contractors in the O&R service territory. Midstream offerings are effective for HVAC equipment because contractors often drive customer decisions when HVAC equipment is failing or has failed. Providing midstream incentives increases the availability of high efficiency equipment and changes contractor behaviors. In a midstream design, the primary points of market engagement are the midstream market actors, *i.e.*, distributors and contractors. The midstream approach also allows the customer to benefit from the financial and energy savings that a downstream program would provide without investing the effort to fill out forms to claim a rebate. Distributors are the gateway to contractors, and contractors are the gateway to customers.

During the 2023-2025 period, the midstream initiative will be expanded to include weatherization measures, which will expand customer opportunities to achieve long term energy savings and increase comfort.

Program Delivery Method

Midstream programs change stocking patterns so that high efficiency equipment is stocked and available, therefore, influencing the customer's final purchase decision. By changing stocking practices and reducing upfront costs, the efficient product is cost competitive and therefore more likely in demand and worth stocking even at a higher price point. Midstream programs offer an opportunity to influence the

market on a larger scale without expending the resources needed to change customer behavior at an individual level. Because the replacement must be done quickly, typically using whatever product the contractor has available, incentivizing distributors who sell more-efficient products encourages them to stock those products in larger volumes at a competitive price. When properly paired with distributor-assisted contractor training and outreach, the change in stocking at a relatively small number of distributors can impact the energy consumption of an entire region or state in less time, cost, and effort than a traditional downstream program. The midstream initiative will continue to expand to include additional EE measures to streamline the customer experience and increase the availability of energy efficient equipment. In addition, instant rebates provided on the CEMP will deliver additional energy savings for smart thermostats and low flow devices.

Target Market/Customer Eligibility

The target audience is residential customers who purchase or have high efficiency gas equipment through midstream market partners, and all residential gas customers who take advantage of instant rebates on the CEMP.

Coordination with Other Programs

O&R will coordinate this program with the remaining residential electric and gas programs, C&I electric and gas portfolios, the BYOT Program, targeted NWA areas, the NYS Clean Heat Program, the Statewide LMI Program, and with the residential suite of electric programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will work with its retailer/distributor partners so that ENERGY STAR® or better HVAC equipment is incentivized, and that the partner is able to track all equipment purchased through the program. O&R and third-party contractors will perform on-site verification inspections for at least ten percent of participants to confirm that equipment is purchased and installed as required to meet program guidelines. Data tracking software will streamline rebate processing, increase productivity, and minimize reporting inaccuracies.

Anticipated Project Timeframe

The average project time will be 30-60 days for the distributor to report midstream sales.

Residential Gas Behavioral Program

Program Design

The Residential Gas Behavioral Program was launched in 2019. This initiative's main goal is to encourage energy savings through voluntary behavioral changes in residential customers and is coordinated with the Residential Electric Behavioral Program and details can be found in that description above.

Program Delivery Method

In 2019, O&R partnered with OPower, a third-party contractor with significant experience administering similar behavioral programs in other locations. This program is coordinated with the Residential Electric Behavioral Program above.

Target Market/Customer Eligibility

This program will target all residential electric and gas customers.

Coordination with Other Programs

O&R will coordinate this program with the remaining residential electric and gas programs, C&I electric and gas portfolios, the BYOT Program, targeted NWA areas, the NYS Clean Heat Program, the Statewide LMI Program, and with the residential suite of electric programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

Similar to the Residential Electric Behavioral Program, quality assurance on claimed savings will be provided by using the control group to quantify the savings of the treatment group. This is performed using an industry accepted methodology. If total savings, as measured by the impact evaluation comparing the control and treatment groups, are falling short of expected results, O&R will work with the selected vendor to improve performance and examine other alternatives or enhancements to the program.

Anticipated Project Timeframe

Because usage from the target and control groups must be compared to calculate the behavioral savings, reconciliation reporting will take 90-120 days.

Business Direct Install Program

Program Design

O&R offers business customers with peak demand of less than 110 kW the Business Direct Install ("BDI") Program. This program provides a turnkey, streamlined customer experience with a free on-site audit, an audit report with recommendations specific to that customer's needs, and a simple payback analysis for their investment. Incentives are designed to cover up to 70 percent of the installed cost of the project, targeting lighting, refrigeration, and cooling end-uses. Customers may apply for a short term no-interest payment plan offered by the implementation contractor so that their revenue stream is net positive upon installation as a result of their bill savings.

In 2022, BDI incentives were increased to 85% of the installed cost for limited time offers to spur participation and continued to offer up to 24-month interest free financing. The program achieved 1,155 MWh, or 24% of its 4,750 MWh target, while spending $702,558, or 60% of its $1,172,126 budget. Additionally, in Q4, the Company launched an online Marketplace for business customers offering commercial measures for those customers interested in DIY projects.

For 2023-2025, the Company will encourage trade allies to move beyond lighting to increase the depth of savings and increase participant benefits. Strategies will include enhanced training on advanced lighting, refrigeration, electric and gas HVAC equipment/controls, to engage trade allies to seek opportunities beyond lighting. Additionally, in coordination with the CEMP, BDI-eligible customers will be able to obtain instant rebates for easy to install lighting products, smart thermostats, power strips, air quality, water-energy saving devices and more.

Program Delivery Method

O&R uses an implementation contractor, a trade ally network, and an internal O&R staff to implement this program. Tracking, analysis, and EM&V activities continue at the measure and program level. Third parties and trade allies for this program will be implementation contractors, the electrical contractor community, and distributors. O&R staff will administer this program and manage the implementation contractor activities.

Target Market/Customer Eligibility

The target audience is commercial and industrial business customers with average peak demands of less than 110 kW and non-profit or religious facilities with average peak demands of less than 200 kW.

Coordination with Other Programs

O&R will coordinate this program with the remaining C&I electric and gas portfolios, the residential electric and gas portfolios, the Company's Dynamic Load Relief Programs, NWAs, the NYS Clean Heat Program, and the BDI program offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will conduct a sampling of pre- and post- on-site inspections to confirm that contractor surveys are accurate, and that equipment installed meets the program eligibility guidelines. O&R internal staff and third-party contractors will perform on-site inspections designed to gauge both customer satisfaction and address any issues with program compliance. Data tracking software will help streamline rebate processing, increase productivity, and minimize reporting inaccuracies.

Anticipated Project Timeframe

Project installation will take place within 30-60 days of the on-site survey.

Commercial and Industrial Electric Rebate Program

Program Design

The C&I Electric Rebate Program is designed to provide prescriptive and custom rebates to encourage all C&I customers to identify energy saving opportunities, develop a long-term building performance improvement plan, and implement cost-effective retrofit upgrade projects. O&R staff met one-on-one with decision makers to promote HVAC, refrigeration, and custom measure upgrades with lower cost lighting measures and industry-specific custom measures contributing most of program savings. The targeted one-on-one approach has facilitated the achievement of program goals and developed long-term relationships with facility managers. For example, several large C&I customers have continually participated in our programs and seek our advice when upgrading equipment or renovating facilities, while also participating in commercial demand response programs.

In 2022, the Company increased rebates across all C&I programs for up to 25% in Q3 and Q4 to spur participation, while also continuing to promote Energy Savings badges that cling to storefront windows to promote business customers' participation in a clean energy sustainable program to provide additional visibility. As a result, the C&I program achieved 30,697 MWh, or 111% of its 27,560 MWh target, while spending $3,884,147 or 63% of its $6,194,255 budget.

For the 2023-2025 program period, this program will continue to include rebates for high efficiency lighting and controls, HVAC measures and variable speed drives, high efficiency refrigeration equipment, building management systems, along with rebates for custom designed efficiency projects. The Company partnered with NYSERDA's Strategic Energy Management contractor in Q4 to leverage and increase outreach efforts in engaging the large C&I customers. This resource helps move C&I customers to a more holistic energy management approach, generating deeper savings beyond lighting. C&I customers will be encouraged to develop an energy master plan to address all facility end-uses where the potential for energy savings exists.

O&R will also facilitate the potential of pairing customers with low-interest financing options available through NYSERDA's Green Bank, NYPA, or other financial institutions. Low-cost financing will accelerate the installation of all cost-effective energy savings and should increase energy savings by enabling customers to move beyond lighting and invest in more sophisticated equipment to obtain more significant energy savings.

Finally, O&R will examine data for C&I customers to determine which customers may have unusual peak usage, or uncommon usage patterns that may be a good fit for a particular load shifting strategy or emerging technology that may only be cost-effective in special situations. O&R worked with a contractor to develop a C&I Propensity Model using Power BI that will target large C&I customers based on the demographics of C&I customers who have participated historically as well as identify program participants with additional energy efficiency opportunities. This model will be used to identify customers who have a high potential to participate and focus our efforts on high impact savings.

For prescriptive measures, incentives are designed to cover 50% of the incremental cost of the measure as the equipment that has either failed or reached the end of its useful life and is being replaced. Custom measure incentives are designed to cover 25% of the installed cost of the project. Higher incentives may be offered in NWA areas to defer capital investments and reduce system constraints. O&R will continue to integrate its EE message across the portfolio of electric programs and cross-market DR initiatives to business customers. Because most program savings to date have been achieved through efficient lighting upgrades, customers will be encouraged to focus on whole building efficiency including electrification upgrades. The Company will use meter data and virtual software analytics to deliver insights to customers to provide a detailed view of the energy usage so customers will be engaged to drive efficiency informed by personalized recommendations. Enhanced partnerships with NYSERDA, trade allies, midstream or upstream retailers and other utilities will also increase participation in the program.

Program Delivery Method

O&R is implementing the program with internal staff and trade allies for the prescriptive and custom rebate components. Incentive levels will be designed to reduce the differential between the efficient product and the baseline alternative. The Company will target C&I customers with the potential for savings and meet with decision makers to upgrade equipment and to help manage their usage. O&R engages with trade allies to increase awareness of prescriptive rebates, eligible equipment, and the availability of custom designed project rebates. C&I customers will be provided with the results of the remote virtual audit that will identify EE, DR, renewable, or load shifting opportunities, and provided with customized incentives to move forward with upgrades. The incentives will be structured to expand energy savings beyond lighting.

Tracking, analysis, and EM&V activities will continue at the measure and program level. Third parties for this program will be the contractor community, trade allies, and distributors. O&R staff will administer the program and use consulting services when necessary to identify baselines, perform engineering analysis, and quantify savings for custom designed projects.

Target Market/Customer Eligibility

Although the target is C&I customers over 110 kW, all C&I customers are eligible to participate to facilitate participation in the pathway that best meets their needs. Targeted marketing is focused on high usage customer segments that will realize the most benefit from EE improvements.

Coordination with Other Programs

O&R will coordinate this program with the remaining C&I electric and gas portfolios, the residential electric and gas portfolios, the Company's Dynamic Load Relief Programs, targeted NWA areas, the NYS Clean Heat Program, and the C&I electric portfolio of programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will conduct pre-inspections on all custom projects to determine the existing baseline conditions and post-inspections to determine if the project was installed as approved. Post-inspections will be performed on a minimum of ten percent of all other prescriptive projects. O&R staff and third-party contractors will be engaged in performing on-site inspections designed to gauge both customer satisfaction and address any issues with program compliance. Data tracking software will streamline rebate processing, increase productivity, and minimize reporting inaccuracies.

Anticipated Project Timeframe

Project installation varies significantly in this market segment because of such factors as project complexity and investment levels. While most projects are installed within 90 days, some larger more complex projects that target end-use measures beyond lighting have taken over two years to install.

Commercial and Industrial Electric Midstream Program

Program Design

In 2019, the C&I Midstream Electric Program was launched to engage a trade ally network of distributors and contractors to increase participation in the program by providing contractors with indoor and outdoor LED lighting equipment at reduced prices. Additionally, non-lighting prescriptive measures are now offered through the Midstream Program. This is a more streamlined approach where commercial customers get instant rebates at the point of sale on HVAC equipment, variable speed drives, and commercial kitchen equipment when purchased through a participating distributor.

Incentives are designed to cover 50% of the incremental cost of the measure and offset the cost of the equipment. Higher incentives may be offered in NWA areas to defer capital investments and reduce system constraints or in response to market conditions.

In 2022, 28 participating distributors and contractors are incentivized to sell eligible products at a reduced cost. Customers receive instant rebates through a discounted price and a third-party implements the initiative. The Company will focus on making high-efficiency products more common in commercial and industrial facilities. By delivering incentives midstream or upstream, rather than through a customer mail-in rebate form, O&R receives several benefits:

- Increased availability and distribution of eligible equipment via partnerships with a select group of large distributors and retailers;
- Larger discounts for the customers by paying the incentive before various supply chain markups are applied; and

- Seamless participation in the upstream program from the customer perspective.

The midstream incentive model leverages existing distributor networks and infrastructure to influence the thousands of equipment purchasing decisions that customers and contractors make daily.

For the 2023-2025 period, O&R will also explore expanding midstream rebates for measures beyond lighting to increase program participation and achieve increasing program goals. In response to changes to residential lighting, the Company expects to expand the C&I Electric Midstream program through 2025. By engaging the trade ally network and moving incentives upstream to distributors and contractors, stocking patterns are influenced to have energy efficient equipment readily available, and contractors realize the benefits as they are often incentivized to promote efficient technologies.

Program Delivery Method

The midstream program is delivered via partnerships with distributors and contractors with oversight of an implementation contractor. As the midstream initiative expands to include other prescriptive measures, trade allies will be incentivized to achieve a greater depth of savings by assessing all the customers' energy needs. Incentive levels will be designed to reduce the differential between the efficient product and the baseline alternative. Program incentives are provided directly to the distributor or contractor so that these measures become the recommended solution. O&R will work with distributors and contractors to co-brand marketing and provide rebates directly to the distributor so that the efficient lighting product is the solution offered to the customer.

Tracking, analysis, and EM&V activities will continue at the measure and program level. Third parties for this program will be the contractor community, trade allies, and distributors. O&R staff will administer the program and use consulting services when necessary to identify baselines, perform engineering analysis, and quantify savings for custom designed projects.

Target Market/Customer Eligibility

Although the Program will target C&I customers over 110 kW, all C&I customers are eligible to participate to facilitate participation in the pathway that best meets their needs.

Coordination with Other Programs

O&R will coordinate this program with the remaining C&I electric and gas portfolios, the residential electric and gas portfolios, the Company's Dynamic Load Relief Programs, targeted NWA areas, the NYS Clean Heat Program, and the C&I portfolio of electric programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will conduct post-inspections on a minimum of ten percent of midstream projects. O&R staff and third-party contractors will be engaged in performing on-site inspections designed to gauge both customer satisfaction and address any issues with program compliance. Data tracking software will streamline rebate processing, increase productivity, and minimize reporting inaccuracies.

Anticipated Project Timeframe

Most projects are installed within 60 days.

C&I Gas HVAC Program

Program Design

The C&I Gas HVAC Program was launched in 2019 and targets energy savings throughout the C&I gas customer base of O&R's service territory. The program provides rebates for ENERGY STAR® space heating and water heating appliance upgrades, low flow devices, and C&I custom gas projects. Trade allies are integral to the success of this program and are made aware of program eligibility and rebate levels through newsletters, direct contractor outreach, and webinars. The majority of the Company's gas savings and budget was accounted for in residential programs. In late 2020, many eligible measures were transitioned to the midstream model that is implemented in conjunction with the Residential Gas HVAC Program. Custom projects continue under a downstream rebate model. As a result, in 2022 the C&I HVAC program achieved 7,727 Dth, or 40% of its 19,457 Dth target, while spending $154,197, or 25% of its $624,581 budget.

For prescriptive measures, incentives are designed to cover 50% of the incremental cost of the measure as the equipment that has either failed or reached the end of its useful life and is being replaced. For custom measures, customer incentives are designed to cover 25% of the installed cost of the project. Higher incentives may be offered in non-pipe alternative areas to defer capital investments and reduce system constraints or in response to changing market conditions.

A third-party implementor performs contractor outreach and training and provides rebates midstream to engage HVAC distributors and contractors in the O&R service territory. Midstream offerings are effective for HVAC equipment because contractors often drive customer decisions when HVAC equipment is failing or has failed. Providing midstream incentives increases the availability of high efficiency equipment and changes contractor behavior. In a midstream design, the primary points of market engagement are the midstream market actors, *i.e.*, distributors and contractors. The midstream approach also allows the customer to benefit from the financial and energy savings that a downstream program would provide without investing the effort to fill out forms to claim a rebate. Distributors are the gateway to contractors, and contractors are the gateway to customers.

During the 2023-2025 period, the midstream initiative will be expanded to include additional EE measures including variable speed drives, pumps, and motors. While the midstream initiative will focus on prescriptive measures, the custom portion will target commercial and industrial process improvements and data analytics will help identify C&I customers with load characteristics that may benefit from upgraded equipment and changes to industrial processes.

Program Delivery Method

Midstream programs change stocking patterns so that high efficiency equipment is stocked and available, therefore, potentially influencing the customer's final purchase decision. By changing stocking practices and reducing cost, the efficient product is cost competitive and therefore, more likely in demand and worth stocking even at a higher level. Midstream programs offer an opportunity to influence the market on a larger scale without expending the resources needed to change customer behavior at an individual level. Because the replacement must be done quickly, typically using whatever product the contractor has available, incentivizing distributors to sell more-efficient products encourages them to stock those products in larger volumes at a lower price. When properly paired with distributor-assisted contractor training and outreach, the change in stocking at a relatively small number of distributors can impact the energy consumption of an entire region or state at less time, cost, and effort than a traditional downstream program. The midstream initiative will continue to expand to include additional EE measures to streamline the customer experience and increase the availability of energy efficient equipment. Custom projects will continue to be rebated under a downstream rebate model.

Target Market/Customer Eligibility

The target audience is C&I gas customers who purchase high efficiency gas equipment through midstream market partners, and C&I gas customers with custom designed energy savings projects.

Coordination with Other Programs

O&R will coordinate this program with the remaining C&I electric and gas portfolios, the residential electric and gas portfolios, targeted NWA areas, the NYS Clean Heat Program, and the C&I gas portfolio of programs offered by O&R's affiliate Con Edison.

Quality Assurance/Quality Control

O&R will work with its retailer/distributor partners so that ENERGY STAR® or better HVAC equipment is incentivized, and that the partner is able to track all equipment purchased through the program. O&R and third-party contractors will perform on-site verification inspections for at least ten percent of participants to confirm that equipment is purchased and installed as required to meet program guidelines. Custom projects require pre- and post-inspection. Data tracking software will streamline rebate processing, increase productivity, and minimize reporting inaccuracies.

Anticipated Project Timeframe

The average project time will be 30-60 days for the distributor to report midstream sales. C&I custom designed projects may have a longer timeline of six months to a year depending on the specifics of the project.

4. Supplemental EE Program Descriptions

West Warwick Non-Wires Alternative Program

Program Design

The West Warwick NWA Program began in late 2022 and should be completed by 2024. The West Warwick NWA was approved in the Company's most recent base rate case.[10]

The program is designed to defer capital infrastructure investments required to upgrade the West Warwick Substation and associated distribution circuits to meet both short- and longer-term energy needs. The program will be coordinated with the BDI, C&I Electric, Residential Electric, Residential and C&I Gas HVAC, and DR programs. Higher incentives may be offered in this NWA area to defer capital investments and reduce system constraints.

O&R's West Warwick Substation is comprised of two 69V-13.2kV, 25 MVA transformer banks (Banks 280 and 380). Bank 280 services three distribution circuits, while Bank 380 serves two distribution circuits. These banks have experienced significant load growth which can overload the banks and associated distribution circuits during system contingencies (*e.g.*, loss of service of a substation transformer bank). The West Warwick NWA seeks to achieve the following two distinct goals:

- Reduce peak electric load within the area served by the West Warwick Substation and the associated 25 MVA transformer banks to alleviate bank contingency conditions; and
- Reduce peak electric load on West Warwick distribution circuits and associated distribution circuit ties for single distribution circuit contingency purposes.

Peak electric load in the West Warwick area is currently served by five West Warwick distribution circuits that all impact the load during bank contingencies. Reducing load on these distribution circuits and their associated circuit ties has the potential to alleviate not only bank contingency issues but also single distribution circuit contingency issues. As such, DERs placed in areas that serve both purposes will be given priority.

Program Delivery Method

The West Warwick Substation presently serves approximately 3,280 customers, with approximately 3,100 residential customers and 180 C&I customers. O&R's West Warwick NWA program supports REV initiatives.

O&R will leverage its existing direct install program, C&I programs, and DR programs to reduce peak demand, as EE is the least-cost solution that provides permanent demand reduction for several years.

[10] Case 18-E-0067, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Orange and Rockland Utilities, Inc. for Electric Service*; Case 18-G-0068, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Orange and Rockland Utilities, Inc. for Gas Service*, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans (issued March 14, 2019).

Because commercial lighting, refrigeration, and cooling are coincident with the West Warwick substation peak, the direct install program will have a significant impact in reducing peak demand as the least-cost solution.

As such, O&R will use its existing direct install contractor to market to the target area door to door, conduct free audits, and employ local trade allies to install projects. Commercial customers on the constrained circuits qualify for higher incentives based on load relief potential that is coincident with the West Warwick NWA in order to increase installation rates and the adoption of peak reduction measures. The Company will conduct field inspections internally on all projects in the West Warwick NWA. Customers with coincident energy savings beyond the direct install program will be incentivized in the C&I programs. Residential customers who are on constrained circuits would qualify for higher incentives for measures coincident with the West Warwick peak and in conjunction with O&R's Direct Load Control Demand Response program.

5. Budget and Plan Summary

Table 1: Actual vs. Planned Program Spend								
NE:NY Electric EE Portfolio	**Actual Spend 2019**	**Planned Spend 2020**	**Actual Spend 2020**	**Planned Spend 2021**	**Actual Spend 2021**	**Planned Spend 2022**	**Actual Spend 2022**	**Total Actual Spend 2019-2022***
Commercial & Industrial Sector								
Business Direct Install								
Incentives & Services	$37,266	$1,627,500	$215,924	$975,000	$909,610	$925,113	$424,205	$1,587,005
Implementation	$154,499	$415,013	$205,998	$260,000	$262,573	$247,013	$278,352	$901,421
Total BDI Budget	**$191,764**	**$2,042,513**	**$421,922**	**$1,235,000**	**$1,172,183**	**$1,172,126**	**$702,558**	**$2,488,426**
C&I Electric Rebate								
Incentives & Services	$1,887,998	$1,000,000	$964,055	$2,227,162	$1,041,822	$1,824,983	$2,166,330	$6,060,204
Implementation	$50,788	$210,000	$211,802	$466,420	$190,183	$342,717	$69,573	$522,346
Total C&I Electric Rebate Budget	**$1,938,785**	**$1,210,000**	**$1,175,857**	**$2,693,582**	**$1,232,005**	**$2,167,700**	**$2,235,903**	**$6,582,550**
C&I Electric Midstream								
Incentives & Services	$2,248,546	$1,565,558	$500,717	$1,365,000	$901,091	$2,782,138	$1,277,801	$4,928,156
Implementation	$127,851	$270,913	$177,062	$455,000	$230,121	$1,244,418	$370,443	$905,477
Total C&I Electric Midstream Budget	**$2,376,397**	**$1,836,471**	**$677,779**	**$1,820,000**	**$1,131,213**	**$4,026,555**	**$1,648,244**	**$5,833,633**
Residential Sector								
Residential Efficient Products								
Incentives & Services	$197,197	$130,000	$115,312	$450,000	$117,012	$238,473	$199,713	$629,234
Implementation	$62,226	$48,274	$47,200	$100,000	$52,528	$192,974	$131,649	$293,604
Total Residential Electric Budget	**$259,424**	**$178,274**	**$162,512**	**$550,000**	**$169,541**	**$431,447**	**$331,362**	**$922,838**
Residential Electric Midstream								
Incentives & Services	$769,807	$952,200	$1,333,172	$1,250,000	$1,748,819	$1,437,540	$1,709,535	$5,561,333
Implementation	$180,479	$300,000	$771,912	$625,000	$435,983	$916,741	$261,832	$1,650,206
Total Residential Electric Midstream Budget	**$950,286**	**$1,252,200**	**$2,105,084**	**$1,875,000**	**$2,184,802**	**$2,354,281**	**$1,971,367**	**$7,211,539**
Residential Electric Behavioral								
Incentives & Services	$0	$0	$0	$0	$0	$0	$0	$0
Implementation	$245,759	$650,000	$637,344	$700,000	$706,957	$665,036	$330,549	$1,920,608
Total Residential Electric Behavioral Budget	**$245,759**	**$650,000**	**$637,344**	**$700,000**	**$706,957**	**$665,036**	**$330,549**	**$1,920,608**
Portfolio Administration	$437,359	$609,844	$392,787	$620,400	$640,548	$627,747	$403,660	$1,874,353
Portfolio EM&V	$177,512	$320,698	$99,350	$406,018	$400,267	$495,290	$49,226	$726,355
Total Portfolio Expenditure	**$6,577,286**	**$8,100,000**	**$5,672,634**	**$9,900,000**	**$7,637,515**	**$11,940,181**	**$7,672,868**	**$27,560,303**
Commission Authorized Total Budget	**$7,100,000**	**$8,100,000**	**$8,100,000**	**$11,260,121**	**$11,260,121**	**$11,940,181**	**$11,940,181**	**$38,400,302**
Budget Remaining/Unspent Funds	**$522,714**		**$2,427,366**	**$1,360,121**	**$3,622,606**	**$0**	**$4,267,313**	**$9,639,999**
NE:NY Gas EE Portfolio								
Commercial & Industrial Sector								
C&I Gas HVAC								
Incentives & Services	$53,610	$311,861	$125,216	$220,098	$55,340	$511,904	$138,940	$373,106
Implementation	$0	$33,265	$0	$38,933	$0	$112,677	$15,257	$15,257
Total C&I HVAC Budget	**$53,610**	**$345,126**	**$125,216**	**$259,031**	**$55,340**	**$624,581**	**$154,197**	**$388,363**
Residential Sector								
Residential Gas HVAC								
Incentives & Services	$305,400	$103,954	$188,915	$220,098	$184,136	$735,317	$225,514	$903,964
Implementation	$0	$9,702	$44,280	$38,933	$6,474	$175,168	$42,368	$93,121
Total Residential Gas HVAC Budget	**$305,400**	**$113,656**	**$233,195**	**$259,031**	**$190,610**	**$910,486**	**$267,881**	**$997,086**
Residential Gas Behavioral								$0
Incentives & Services	$0	$0	$0	$0	$0	$0	$0	$0
Implementation	$150,100	$150,000	$150,713	$100,000	$74,865	$127,156	$204,753	$580,432
Total Residential Behavioral Budget	**$150,100**	**$150,000**	**$150,713**	**$100,000**	**$74,865**	**$127,156**	**$204,753**	**$580,432**
Portfolio Administration	$37,949	$66,531	$70,942	$55,000	$37,066	$102,573	$77,629	$223,585
Portfolio EM&V	$5,154	$27,687	$2,404	$29,938	$65,222	$87,145	$8,682	$81,462
Total Portfolio Expenditure	**$552,212**	**$703,000**	**$582,470**	**$703,000**	**$423,103**	**$1,851,941**	**$713,142**	**$2,270,927**
Commission Authorized Total Budget	**$703,000**	**$703,000**	**$703,000**	**$1,527,207**	**$1,527,207**	**$1,851,941**	**$1,851,941**	**$4,785,148**
Budget Remaining/Unspent Funds	**$150,788**		**$120,530**	**$824,207**	**$1,104,104**	**$0**	**$1,138,799**	**$14,221**

**** The 2019-2022 Unspent NENY Electric EE budget has transferred $1.2M to the 2024-2025 LMI Electric budget. The 2019-2022 Unspent NENY Gas EE budget has transferred $2.5M to the 2024-2025 LMI Gas budget (see Table 2). This transfer will be reflected in the upcoming LMI IP filing scheduled for November 1, 2023.***

Table 1A: Actual vs. Planned NYS Clean Heat Program Spend								
NYS Clean Heat Portfolio	**Actual Spend 2019**	**Planned Spend 2020**	**Actual Spend 2020**	**Planned Spend 2021**	**Actual Spend 2021**	**Planned Spend 2022**	**Actual Spend 2022**	**Total Actual Spend 2019-2022**
Total Portfolio Expenditure		$1,236,326	$542,743	$1,973,311	$2,915,865	$2,397,539	$3,623,988	$7,082,596
Commission Authorized Total Budget		$1,236,326	$1,236,326	$1,973,311	$1,973,311	$2,397,539	$2,397,539	$5,607,176
Budget Remaining/Unspent Funds			**$693,584**	**$0**	**($942,554)**	**$0**	**($1,226,449)**	**($1,475,420)**

Table 1B: Actual vs. Planned LMI Portfolio Spend								
LMI Electric Portfolio	**Actual Spend 2019**	**Planned Spend 2020**	**Actual Spend 2020**	**Planned Spend 2021**	**Actual Spend 2021**	**Planned Spend 2022**	**Actual Spend 2022**	**Total Actual Spend 2019-2022**
Incentives & Services		$20,019	$0	$366,578	$0	$179,148	$1,119,169	$1,119,169
Implementation		$0	$0	$0	$0	$0	$16,490	$16,490
Total LMI Electric Budget		**$20,019**	**$0**	**$366,578**	**$0**	**$179,148**	**$1,135,659**	**$1,135,659**
Portfolio Administration		$2,500	$0	$10,000	$0	$10,000	$19,437	$19,437
Portfolio EM&V		$0	$0	$5,955	$0	$7,694	$0	$0
Total Portfolio Expenditure		**$22,519**	**$0**	**$382,533**	**$0**	**$196,841**	**$1,155,096**	**$1,155,096**
Commission Authorized Total Budget		**$22,519**	**$22,519**	**$382,533**	**$382,533**	**$196,841**	**$196,841**	**$601,893**
Budget Remaining/Unspent Funds		**$0**	**$22,519**	**$0**	**$382,533**	**$0**	**($958,254)**	**($553,203)**
LMI Gas Portfolio								
Incentives & Services		$47,543	$0	$406,090	$0	$503,343	$2,672,330	$2,672,330
Implementation		$0	$0	$0	$0	$0	$0	$0
Total LMI Gas Budget		**$47,543**	**$0**	**$406,090**	**$0**	**$503,343**	**$2,672,330**	**$2,672,330**
Portfolio Administration		$5,000	$0	$20,000	$0	$20,000	$9,419	$9,419
Portfolio EM&V		$0	$0	$11,909	$0	$15,388	$0	$0
Total Portfolio Expenditure		**$52,543**	**$0**	**$438,000**	**$0**	**$538,730**	**$2,681,749**	**$2,681,749**
Commission Authorized Total Budget		**$52,543**	**$52,543**	**$438,000**	**$438,000**	**$538,730**	**$538,730**	**$1,029,274**
Budget Remaining/Unspent Funds		**$0**	**$52,543**	**$0**	**$438,000**	**$0**	**($2,143,019)**	**($1,652,476)**

Table 2: Forecast Program Planned Spend and Budgets			
NE:NY Electric EE Portfolio	**Planned Spend 2023**	**Planned Spend 2024**	**Planned Spend 2025**
Commercial & Industrial Sector			
Business Direct Install			
Incentives & Services	$909,272	$585,000	$585,000
Implementation	$298,063	$298,063	$298,063
Total BDI Budget	**$1,207,335**	**$883,063**	**$883,063**
C&I Electric Rebate			
Incentives & Services	$1,551,331	$1,941,985	$1,904,686
Implementation	$358,744	$377,237	$365,209
Total C&I Electric Rebate Budget	**$1,910,076**	**$2,319,221**	**$2,269,895**
C&I Electric Midstream			
Incentives & Services	$3,069,207	$4,171,038	$4,124,144
Implementation	$1,368,393	$978,315	$1,081,481
Total C&I Electric Midstream Budget	**$4,437,600**	**$5,149,353**	**$5,205,625**
Residential Sector			
Residential Efficient Products			
Incentives & Services	$191,957	$270,782	$501,609
Implementation	$395,101	$395,101	$395,101
Total Residential Efficient Products Budget	**$587,058**	**$665,883**	**$896,710**
Residential Electric Midstream			
Incentives & Services	$1,565,405	$1,109,495	$1,100,454
Implementation	$1,102,566	$1,008,957	$865,549
Total Residential Electric Midstream Budget	**$2,667,970**	**$2,118,452**	**$1,966,004**
Residential Electric Behavioral			
Incentives & Services	$0	$0	$0
Implementation	$318,473	$318,473	$318,473
Total Residential Electric Behavioral Budget	**$318,473**	**$318,473**	**$318,473**
Portfolio Administration	$641,811	$693,042	$706,644
Portfolio EM&V	$509,887	$438,751	$443,534
Total Portfolio Expenditure	**$12,280,211**	**$12,586,238**	**$12,689,948**
Commission Authorized Total Budget	**$12,280,211**	**$12,586,238**	**$12,689,948**
Budget Remaining/Unspent Funds	**$0**	**$0**	**$0**
NE:NY Gas EE Portfolio			
Commercial & Industrial Sector			
C&I Gas HVAC			
Incentives & Services	$710,683	$622,892	$526,075
Implementation	$139,582	$175,851	$208,353
Total C&I HVAC Budget	**$850,265**	**$798,743**	**$734,427**
Residential Sector			
Residential Gas HVAC			
Incentives & Services	$931,293	$1,446,878	$1,941,390
Implementation	$207,730	$266,298	$343,065
Total Residential Gas HVAC Budget	**$1,139,022**	**$1,713,176**	**$2,284,455**
Residential Gas Behavioral			
Incentives & Services	$0	$0	$0
Implementation	$195,193	$195,193	$195,193
Total Residential Behavioral Budget	**$195,193**	**$195,193**	**$195,193**
Portfolio Administration	$105,456	$133,403	$140,073
Portfolio EM&V	$110,422	$141,463	$159,183
Total Portfolio Expenditure	**$2,400,359**	**$2,981,977**	**$3,513,331**
Commission Authorized Total Budget	**$2,400,359**	**$2,981,977**	**$3,513,331**
Budget Remaining/Unspent Funds	**$0**	**$0**	**$0**

Table 2A: Forecast NYS Clean Heat Program Planned Spend and Budgets			
NYS Clean Heat Portfolio	**Planned Spend 2023**	**Planned Spend 2024**	**Planned Spend 2025**
Total Portfolio Expenditure	$2,828,131	$3,164,633	$3,403,947
Commission Authorized Total Budget	$2,828,131	$3,164,633	$3,403,947
Budget Remaining/Unspent Funds	$0	$0	$0

Table 2B: Forecast LMI Program Planned Spend and Budgets			
LMI Electric Portfolio	**Planned Spend 2023**	**Planned Spend 2024***	**Planned Spend 2025***
Incentives & Services	$877,563	$680,000	$680,000
Implementation	$28,000	$28,000	$28,000
Total LMI Electric Budget	**$905,563**	**$708,000**	**$708,000**
Portfolio Administration	$10,000	$10,000	$10,000
Portfolio EM&V	$5,000	$5,000	$5,000
Total Portfolio Expenditure	**$920,563**	**$723,000**	**$723,000**
Commission Authorized Total Budget	**$920,563**	**$723,000**	**$723,000**
Budget Remaining/Unspent Funds	**$0**	**$0**	**$0**
LMI Gas Portfolio			
Incentives & Services	$719,904	$1,344,500	$1,344,500
Implementation	$25,500	$25,500	$25,500
Total LMI Gas Budget	**$745,404**	**$1,370,000**	**$1,370,000**
Portfolio Administration	$9,549	$10,000	$10,000
Portfolio EM&V	$5,000	$5,000	$5,000
Total Portfolio Expenditure	**$759,953**	**$1,385,000**	**$1,385,000**
Commission Authorized Total Budget	**$759,953**	**$1,385,000**	**$1,385,000**
Budget Remaining/Unspent Funds	**$0**	**$0**	**$0**

The 2024-2025 LMI Budgets includes $1.2M transferred into LMI Electric from the 2019-2022 Unspent Non-LMI Electric budget and $2.5M transferred into LMI Gas from the 2019-2022 Unspent Non-LMI Gas budget (see Table 1). This transfer will be reflected in the upcoming LMI IP filing scheduled for November 1, 2023.

Table 2C: Complete NENY Order 2019-2025 Budget Alignment								
	Actual Spend 2019	Actual Spend 2020	Actual Spend 2021	Actual Spend 2022	Planned Spend 2023	Planned Spend 2024	Planned Spend 2025	TOTAL
Non-LMI Electric Portfolio	$6,577,286	$5,672,634	$7,637,515	$7,672,868	$12,280,211	$12,586,238	$12,689,948	$65,116,700
Non-LMI Gas Portfolio	$552,212	$582,470	$423,103	$713,142	$2,400,359	$2,981,977	$3,513,331	$11,166,595
NYS Clean Heat Portfolio		$542,743	$2,915,865	$3,623,988	$2,828,131	$3,164,633	$3,403,947	$16,479,307
	Actual Spend 2019	Actual Spend 2020	Actual Spend 2021	Actual Spend 2022	Planned Spend 2023	Planned Spend 2024	Planned Spend 2025	TOTAL*
LMI Electric Portfolio	$-	$-	$-	$1,155,096	$920,563	$723,000	$723,000	$3,521,659
LMI Gas Portfolio	$-	$-	$-	$2,681,749	$759,953	$1,385,000	$1,385,000	$6,211,702

The Total LMI Electric Portfolio budget includes $1.2M transferred into the 2024-2025 period from the 2019-2022 Unspent Non-LMI Electric budget. The Total LMI Gas Portfolio budget includes $2.5M transferred into the 2024-2025 period from the 2019-2022 Unspent Non-LMI Gas budget. This transfer will be reflected in the upcoming LMI IP filing scheduled for November 1, 2023.

Table 3: Actual vs. Planned Primary and Secondary Program Savings								
NE:NY Electric EE Portfolio	**Actual Savings 2019**	**Planned Savings 2020**	**Actual Savings 2020**	**Planned Savings 2021**	**Actual Savings 2021**	**Planned Savings 2022**	**Actual Savings 2022**	**Total Actual Savings 2019-2022**
Commercial & Industrial Sector								
Business Direct Install								
MWh	124	8,333	814	4,295	2434	4,750	1,155	4,528
MW	0	1.3	0.2	0.5	0.4	0.5	0.2	0.7
C&I Electric Rebate								
MWh	17,568	17,024	10,327	14,019	9,995	15,250	16,792	54,682
MW	2.6	2.7	1.8	3.1	1.3	1.4	1.6	7.4
C&I Electric Midstream								
MWh	12,581	10,000	6,411	11,167	9,205	12,310	13,905	42,102
MW	4.2	1.6	1.6	2.4	2.6	4.1	3.5	11.9
Residential Sector								
Residential Efficient Products								
MWh	873	1,400	786	1,718	793	1,753	1,263	3,715
MW	0.3	0.4	0.2	0.2	0.4	0.5	0.5	1.4
Residential Electric Midstream								
MWh	20,505	12,936	32,501	21,475	39,099	21,037	32,267	124,372
MW	1.5	0.9	2.3	3.1	3	4.6	5.1	11.9
Residential Electric Behavioral								
MWh	1,181	8,000	7,720	7,887	10,642	9,091	9,652	29,195
MW	0	0	0	0	0	0	0	0
Total Electric Portfolio								
MWh	**52,831**	**57,693**	**58,559**	**60,561**	**72,169**	**64,191**	**75,035**	**258,594**
MW	**8.7**	**6.9**	**6.1**	**9.3**	**7.7**	**11.3**	**10.9**	**33.4**
NE:NY Gas EE Portfolio								
Commercial & Industrial Sector								
C&I Gas HVAC								
Dth	4,884	15,833	8,997	10,382	7,092	19,457	7,727	28,700
Residential Sector								
Residential Gas HVAC								
Dth	15,634	7,931	13,769	10,382	16,418	21,981	16,116	61,937
Residential Gas Behavioral								
Dth	8,587	8,000	8,813	11,000	10,599	15,000	38,162	66,161
Total Gas Portfolio (Dth)	**29,106**	**31,764**	**31,579**	**31,764**	**34,109**	**56,438**	**62,005**	**156,799**

Note that Actual Savings have been updated to reflect most recent realization rates ("RR"), if applicable. BDI RR = 64% based on PY09-PY11 SBDI Study, C&I Electric Rebate RR = 100% based on PY17-PY18 C&I Study, Residential Efficient Products RR is broken into two components, a Marketplace and non-Marketplace RR. Marketplace RR = 93% based on PY16-PY17 Marketplace Study, non-Marketplace RR = 57% based on PY11-PY12 Efficient Products Study. Residential Gas HVAC is broken into two components, a Marketplace and non-Marketplace RR. Marketplace RR = 82% based on PY16-PY17 Marketplace Study, non-Marketplace RR is unevaluated. Any program without a specific RR and corresponding study are currently unevaluated, but new RRs are expected to be applied based on PY2022 evaluation findings. Additional information regarding evaluation activity can be found following Table 6.

Table 3A: Actual vs. Planned Primary and Secondary NYS Clean Heat Savings								
NYS Clean Heat Portfolio	**Actual Savings 2019**	**Planned Savings 2020**	**Actual Savings 2020**	**Planned Savings 2021**	**Actual Savings 2021**	**Planned Savings 2022**	**Actual Savings 2022**	**Total Actual Savings 2019-2022**
Total Portfolio								
MMBtu		6,440	4,434	10,421	20,829	13,027	25,890	**51,152**

Table 3B: Actual vs. Planned LMI Portfolio Savings								
LMI Electric Portfolio	**Actual Savings 2019**	**Planned Savings 2020**	**Actual Savings 2020**	**Planned Savings 2021**	**Actual Savings 2021**	**Planned Savings 2022**	**Actual Savings 2022**	**Total Actual Savings 2019-2022**
Total Electric Portfolio								
MWh		30	0	0	0	290	1,314	**1,314**
MW		0	0	0	0	0	0	**0**
LMI Gas Portfolio								
Total Gas Portfolio								
MMBtu		418	0	0	0	4,052	2,688	**2,688**

Table 4: Forecast Primary and Secondary Program Savings Plan			
NE:NY Electric EE Portfolio	**Planned Savings 2023**	**Planned Savings 2024**	**Planned Savings 2025**
Commercial & Industrial Sector			
Business Direct Install			
MWh	3,354	2,421	2,440
MW	0.4	0.3	0.3
C&I Electric Rebate			
MWh	6,511	8,357	8,483
MW	1.3	1.7	1.7
C&I Electric Midstream			
MWh	32,008	39,413	39,716
MW	6.5	8	8
Residential Sector			
Residential Efficient Products			
MWh	978	1,028	1,196
MW	0.2	0.2	0.2
Residential Electric Midstream			
MWh	13,193	6,493	6,440
MW	2	1	1
Residential Electric Behavioral			
MWh	10,000	10,000	10,000
MW	0	0	0
Total Electric Portfolio			
MWh	**66,044**	**67,711**	**68,276**
MW	**10.4**	**11.1**	**11.2**
NE:NY Gas EE Portfolio			
Commercial & Industrial Sector			
C&I Gas HVAC			
Dth	17,184	15,000	15,000
Residential Sector			
Residential Gas HVAC			
Dth	20,285	39,470	55,002
Residential Gas Behavioral			
Dth	35,000	35,000	35,000
Total Gas Portfolio (Dth)	**72,469**	**89,470**	**105,002**

Table 4A: Forecast NYS Clean Heat Savings Plan			
NYS Clean Heat Portfolio	**Planned Savings 2023**	**Planned Savings 2024**	**Planned Savings 2025**
Total Portfolio			
MMBtu	16,109	18,912	21,748

Table 4B: Forecast LMI Portfolio Savings Plan			
LMI Electric Portfolio	**Planned Savings 2023**	**Planned Savings 2024**	**Planned Savings 2025**
LMI Electric Portfolio			
Total Electric Portfolio			
MWh	1,531	1,360	1,359
MW	0	0	0
LMI Gas Portfolio			
Total Gas Portfolio			
MMBtu	4,607	3,637	3,637

Table 4C: Complete NENY Order 2019-2025 Savings Alignment								
	Planned Savings 2019	**Planned Savings 2020**	**Planned Savings 2021**	**Planned Savings 2022**	**Planned Savings 2023**	**Planned Savings 2024**	**Planned Savings 2025**	**TOTAL**
Non-LMI Electric Portfolio (MWh)	**7,946**	**57,693**	**60,561**	**64,191**	**66,044**	**67,711**	**68,276**	**392,422**
Non-LMI Gas Portfolio (MMBtu)	**9,233**	**31,764**	**31,764**	**56,438**	**72,469**	**89,470**	**105,002**	**396,140**
NYS Clean Heat Portfolio (MMBtu)		**6,440**	**10,421**	**13,027**	**16,109**	**18,912**	**21,748**	**86,657**
	Actual Savings 2019	**Actual Savings 2020**	**Actual Savings 2021**	**Actual Savings 2022**	**Planned Savings 2023**	**Planned Savings 2024**	**Planned Savings 2025**	**TOTAL**
LMI Electric Portfolio (MWh)	-	-	-	**1,314**	**1,531**	**1,360**	**1,359**	**5,564**
LMI Gas Portfolio (MMBtu)	-	-	-	**2,688**	**4,607**	**3,637**	**3,637**	**14,569**

EVALUATION MEASUREMENT AND VERIFICATION

O&R will coordinate Evaluation, Measurement, and Verification ("EM&V") activities with other New York State utility program administrators (as well as NYSERDA), whenever possible, and participate in statewide studies that will inform O&R program design. The EM&V process will be transitioned from traditional program-specific processes and impact evaluations to an emphasis on conducting more strategic and targeted studies so that programs can be proactively modified and be responsive to changing market conditions. For example, the Company will be better able to design offerings with a customer segmentation analysis and evaluate the energy impacts of specific market driven technologies. Traditional efficiency program related evaluations will be conducted when required to evaluate the effectiveness of new initiatives, delivery mechanisms, free ridership, and product offerings.

The EM&V process will assess the performance of programs, projects, and measures using third-party evaluations, engineering, and quality assurance/quality control contractors under O&R oversight as well as internal inspection personnel. The Company will assess numerous portfolio attributes including measuring energy and demand savings as well as program processes to determine if a program is achieving the projected level of savings. EM&V data will be collected to inform improvement recommendations in program processes and performance and to provide regional specific information to update the Technical Resource Manual ("TRM").

Impact Evaluation

O&R intends to conduct strategic and targeted impact evaluation activities during the program year cycle to provide rapid feedback to stakeholders for use in strategic program planning and to inform TRM updates.

O&R program administrators, marketing staff, and implementation contractors will collaborate with evaluation managers to identify the focus of the evaluation research. This may include assessing measure-specific realization rates through appropriate gross savings analysis methods; segmenting measure savings by sector; building type and geography; informing TRM updates and future program planning efforts; informing cost-effectiveness; and providing other recommendations to add value to program design and operations.

By focusing on measurement and verification on the front end of proposed projects, a true baseline can be obtained to determine the actual savings acquired and achieved from the installation of new measures. These early EM&V activities will allow for the determination of more accurate baselines and estimates of usage patterns which will lead to better quantification of efficiency savings for efficient equipment over a shorter time. The Company will begin to report estimated Verified Gross Savings ("VGS"), adjusted by the best information from all EM&V activities available within reasonable time and budget constraints as defined in the prevailing DPS Staff guidance. The Company currently performs pre- and post-inspections for all its custom projects where baseline conditions are captured along with operating hours to verify savings calculations and compare expected savings to the customer's annual usage.

Process Evaluation

Process evaluations focus on documenting the effectiveness of the design and delivery of EE programs. These evaluations will be used to document program operations for new delivery methods in the portfolio of residential and C&I programs. Process evaluations are also effective at diagnosing problems in programs that are under-performing or experiencing operational challenges. These evaluations can identify ways to make enhancements and improvements that reduce operating costs, expedite delivery, improve satisfaction, and fine-tune objectives. The Company's challenge is to conduct this research and communicate the findings in an expedited fashion so that program improvements can be implemented quickly and positively affect performance. The use of EM&V results in a near real-time environment allows for program changes that best reflect current market conditions.

Measurement & Verification

Measurement & Verification ("M&V") will play a critical role in updating the TRM for calculating VGS, providing data for use in Company load forecasts (*i.e.*, load shapes), and in identifying potential impacts of new technologies for inclusion into the program portfolio. All M&V work will be designed to comply with the International Performance Measurement and Verification Protocol ("IPMVP") standards. The protocol selected within IPMVP will depend on the measures included within a project and/or historical performance of the measure. Projects selected for M&V will receive pre- and post-onsite visits including the following:

- A site-specific measurement and verification plan;
- A preliminary report showing results of an engineering desk review and/or pre-installation M&V; and
- A final report with results of measured savings.

M&V data may be more robust than data collected in traditional impact evaluation work because it verifies baseline conditions before a project is implemented. The Company intends to use M&V data to enhance impact evaluations and more accurately identify baseline conditions. The data will supplement the impact evaluation to provide more accurate results, as well as offset required impact data to reduce costs. M&V will also provide oversight of a contractor's work and verify reported savings. Program administrators will summarize and use findings from various M&V reviews for future measure-specific savings estimates and internal analytics. In addition, the M&V data collected will provide system-based intelligence for load forecasting efforts to develop strategies to assess peak load characteristics and accurately define a project's impact on system related operating conditions and provide continuous feedback to inform program design.

Quality Assurance/Quality Control

Quality Assurance/Quality Control ("QA/QC") verifies savings based on the existing baseline conditions and the customer's expected energy savings. QA/QC is an important check and balance procedure to verify that implementation contractors and trade allies are performing work in compliance with contract agreements and that they are achieving any performance related metrics. QA/QC work will serve as an additional safeguard to maintain work integrity. QA/QC site work also provides an opportunity to collect additional data that would supplement the process and/or impact evaluation (*e.g.*, customer survey and operating hour verification).

Tables 5 and 6 below set forth the EM&V activity schedule and forecasted expenditures for 2019 - 2025.

Table 5: 2019-2025 EM&V Activity Schedule

NE:NY Electric EM&V Activity	Expected Plan Submission Date	Expected Start Date	Expected Completion Date	Status
ORU PY17-18 C&I Impact Evaluation	NA	Q1 2019	Q3 2020	Complete
ORU PY19 C&I Lighting HOU Benchmarking Study	NA	Q3 2021	Q1 2022	Complete
ORU PY2019 EE Portfolio Impact Eval Study	Q3 2023	Q2 2020	Q4 2022	Complete
ORU PY2019 SBDI Process Eval Study	Q3 2023	Q2 2020	Q4 2022	Complete
ORU PY2022 EE Portfolio Impact Eval Study	Q2 2023	Q2 2023	Q4 2023	In Process
NTG Study: Residential	Q1 2024	Q1 2024	Q3 2024	Not Started
NTG Study: Commercial	Q3 2024	Q3 2024	Q1 2025	Not Started
Demographic/Firmographic Market Assessment	Q4 2024	Q4 2024	Q2 2025	Not Started
NE:NY Gas EM&V Activity				
ORU PY2019 EE Portfolio Impact Eval Study	Q3 2023	Q2 2020	Q4 2022	Complete
ORU PY2022 EE Portfolio Impact Eval Study	Q2 2023	Q2 2023	Q4 2023	In Process
NTG Study: Residential	Q1 2024	Q1 2024	Q3 2024	Not Started
NTG Study: Commercial	Q3 2024	Q3 2024	Q1 2025	Not Started
Demographic/Firmographic Market Assessment	Q4 2024	Q4 2024	Q2 2025	Not Started

Table 6: 2019-2025 EM&V Activity Forecasted Expenditures

NE:NY Electric EM&V Activity	Actual Spend 2019	Actual Spend 2020	Planned Year 2021	Actual Spend 2021	Planned Year 2022	Actual Spend 2022	Planned Year 2023	Planned Year 2024	Planned Year 2025
Impact Evaluation	$150,343	$68,102	$200,000	$261,380	$297,174	$14,930	$434,887	$368,751	$0
Process Evaluation	$11,317	$14,141	$100,000	$44,099	$123,822	$4,900	$0	$0	$373,534
Measurement & Verification	$15,852	$17,107	$106,018	$94,789	$74,293	$29,396	$75,000	$170,000	$170,000
Total EM&V Forecasted Expenditures	**$177,512**	**$99,350**	**$406,018**	**$400,268**	**$495,290**	**$49,226**	**$509,887**	**$538,751**	**$543,534**
Unallocated Budget	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
NE:NY Gas EM&V Activity									
Impact Evaluation	$0	$2,404	$24,938	$65,222	$52,287	$8,682	$100,422	$111,463	$0
Process Evaluation	$5,154	$0	$2,500	$0	$21,786	$0	$0	$0	$129,183
Measurement & Verification	$0	$0	$2,500	$0	$13,072	$0	$10,000	$30,000	$30,000
Total EM&V Forecasted Expenditures	**$5,154**	**$2,404**	**$29,938**	**$65,222**	**$87,145**	**$8,682**	**$110,422**	**$141,463**	**$159,183**
Unallocated Budget	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

The chart below summarizes the historical evaluation activities completed by O&R. While some of these activities resulted in final reports that were filed promptly with the Department of Public Service, others were not submitted until this current year.

Evaluation Study	Eval Period	Completion Date	Key Findings and Recommendations	Status of Recommendation
ORU PY19 EE Portfolio Impact Evaluation	2019	Q4 2022	Upgrade tracking and reporting system for all programs to Company's integrated tracking system, VisionDSM. Savings calculations and reporting tools all adhere to the methodologies prescribed in the TRM.	In-Process Complete
ORU PY19 SBDI Process Evaluation	2019	Q4 2022	Make VisionDSM the database of record to simplify and unify reporting, tracking, and evaluation activities. Replace or redesign the Implementation Contractor's online tool with a spreadsheet-based tool containing drop-down menus that are simple for contractors to use in the field without an internet connection. Improve post-inspection reports to contain critical findings regarding the installed measures including mismatches with invoiced specs and customer reported hours of use.	In-Process Complete Complete
ORU PY19 C&I Lighting HOU Benchmarking	2019-2020	Q1 2022	Use actual or customer-reported lighting HOUs rather than TRM defaults for the following segment which fall	Complete

			outside the +/- 20% acceptable benchmarking range: Non-refrigerated Warehouses, Food Services, Food Stores, Education, Public Assembly, Non-mall Retail, Nursing, and Other.	
ORU PY17-18 C&I Impact Evaluation	2017-2018	Q3 2020	For HVAC and lighting projects require customers to provide space occupancy and operating schedules. For VFD projects require contractor to provide documentation showing controller has been commissioned properly.	Complete Complete
ORU PY17 SBDI Process Evaluation	2017	Q1 2018	Expand measure offerings beyond lighting and motors to refrigeration, air compressors, and HVAC measures. Provide contractors and auditors training and marketing collateral. Provide on-site troubleshooting support for contractors to reduce inspection failures.	Complete Complete Complete
ORU PY17 Residential Gas HVAC Process Evaluation	2017	Q4 2017	Create a contractor search tool that customers can access on ORU website. Provide contractors with training and marketing collateral. Promote online application portal which allows contractors to easily track their projects to completion.	N/A (program is midstream only) Complete Complete

ORU PY16-17 Marketplace & Behavioral Evaluation	2016-2017	Q2 2018	Apply UMP methodology for determining the ISR value of LED lamps. Apply a waste-heat factor value for LED lamps based on the survey-gathered distribution of system types. Enable contractors to advertise their services on the My ORU Store. Behavioral program should undergo an impact evaluation that conforms to UMP standards, calculates savings estimates at a specified confidence interval, and eliminates double counting of savings from customers who participated in other programs.	Not Completed Complete Complete Complete
ORU PY2016 C&I Impact Evaluation	2016	Q3 2018	Require nameplate pictures and specs of the baseline and new HVAC equipment installed. Custom measures should require an engineering-based estimate of the savings based on site-specific data that doesn't necessarily conform to TRM calculations or default values.	Complete Complete
ORU PY16-18 Refrigerator Recycling Program Evaluation	2016-2018	Q3 2018	Based on the most recent actual metering data collected within the program, adjust the default unit energy savings (kWh/yr) for measures within the Refrigerator Recycling Program from the TRM value to:	Not Completed

			- Primary Refrigerator = 1,123 - Secondary Refrigerator = 547 - Freezer = 410	
ORU PY2015 Refrigerator Recycling Program Evaluation	2015	Q3 2016	Based on the most recent actual metering data collected within the program, adjust the default unit energy savings (kWh/yr) for measures within the Refrigerator Recycling Program from the TRM value to: - Primary Refrigerator = 1,195 - Secondary Refrigerator = 672	Not Completed
ORU PY11-12 Efficient Products Impact Evaluation	2011-2012	Q3 2016	Recycling program should annually update the ex-ante unit energy savings estimate for recycled appliances due to turnover in the age of the appliances that are in circulation. Recycling program should capture the location within the home where the appliance was being used.	Not Completed Complete
ORU PY09-11 SBDI Impact Evaluation	2009-2011	Q4 2014	Program should consider utilizing M&V to accurately determine the operating hours of a facility for projects of significant size. Project tracking tools should collect the installation locations for all measures in	Complete Complete

			order to improve the ease of QAQC inspections. O&R should work with the joint utilities and TRM authors to update the default operating hours for all facility types in the manual so that they reflect the most recent evaluation results.	Complete

Benefit Cost Analysis

The table below sets forth the annual Benefit Cost Analysis ("BCA") for the Company's electric and gas portfolio by program for 2019 – 2025.

Table 7: 2019-2025 Primary Benefit Cost Analysis							
NE:NY Electric EE Portfolio	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Commercial & Industrial Sector							
Business Direct Install							
Benefits	$6,804,134	$1,454,852	$2,404,202	$2,491,170	$2,578,618	$2,664,649	$2,752,309
Costs	$3,201,346	$1,250,000	$1,939,427	$1,955,207	$1,974,917	$1,974,917	$1,974,917
Benefit Cost Ratio	**2.13**	**1.16**	**1.24**	**1.27**	**1.31**	**1.35**	**1.39**
C&I Electric Rebate							
Benefits	$20,391,915	$15,243,966	$6,885,558	$7,123,863	$7,364,373	$7,602,663	$7,842,770
Costs	$7,133,843	$6,813,388	$4,096,746	$3,976,136	$4,265,307	$4,283,800	$4,271,772
Benefit Cost Ratio	**2.86**	**2.24**	**1.68**	**1.79**	**1.73**	**1.77**	**1.84**
C&I Midstream							
Benefits		$13,925,893	$26,963,332	$27,780,935	$43,199,224	$44,466,195	$45,716,640
Costs		$2,916,514	$6,106,242	$6,267,901	$16,658,789	$16,344,209	$16,279,138
Benefit Cost Ratio		**4.77**	**4.42**	**4.43**	**2.59**	**2.72**	**2.81**
Residential Sector							
Residential Efficient Products							
Benefits	$10,481,065	$517,337	$648,681	$568,830	$571,988	$582,757	$596,033
Costs	$2,837,303	$377,646	$509,139	$418,636	$648,174	$636,954	$628,705
Benefit Cost Ratio	**3.69**	**1.37**	**1.27**	**1.36**	**0.88**	**0.91**	**0.95**
Residential Electric Midstream							
Benefits		$19,740,800	$5,968,901	$24,623,607	$25,445,550	$26,253,855	$27,055,447
Costs		$4,496,995	$762,583	$5,071,260	$5,912,454	$5,819,273	$5,675,479
Benefit Cost Ratio		**4.39**	**7.83**	**4.86**	**4.3**	**4.51**	**4.77**
Residential Electric Behavioral							
Benefits		$656,846	$813,590	$848,447	$888,304	$922,364	$953,610
Costs		$635,274	$883,696	$363,600	$318,473	$318,473	$318,473
Benefit Cost Ratio		**1.03**	**0.92**	**2.33**	**2.79**	**2.9**	**2.99**
NYS Clean Heat							
Benefits		$734,198	$2,459,400	$1,601,817	$2,063,177	$2,525,272	$2,991,371
Costs		$679,567	$1,410,586	$865,736	$1,496,212	$1,588,028	$1,578,817
Benefit Cost Ratio		**1.08**	**1.74**	**1.85**	**1.38**	**1.59**	**1.89**
Total Electric Portfolio							
Total Benefits	**$37,677,114**	**$52,273,892**	**$46,143,665**	**$65,038,669**	**$82,111,233**	**$85,017,755**	**$87,908,180**
Total Costs	**$13,172,492**	**$17,169,384**	**$16,749,234**	**$19,371,361**	**$32,426,025**	**$32,097,447**	**$31,877,480**
Electric Portfolio Benefit Cost Ratio	**2.86**	**3.04**	**2.75**	**3.36**	**2.53**	**2.65**	**2.76**
NE:NY Gas EE Portfolio							
Commercial & Industrial Sector							
C&I Gas HVAC							
Benefits	$1,538,249	$1,211,822	$1,726,185	$2,000,313	$2,153,902	$2,287,902	$2,407,586
Costs	$1,353,093	$707,733	$825,402	$1,051,090	$1,111,614	$1,172,636	$1,220,011
Benefit Cost Ratio	**1.14**	**1.71**	**2.09**	**1.9**	**1.94**	**1.95**	**1.97**
Residential Sector							
Residential Gas HVAC							
Benefits	$577,532	$1,292,198	$2,634,787	$2,793,933	$2,940,274	$3,061,796	$3,184,647
Costs	$685,437	$993,661	$1,509,570	$1,757,063	$1,826,398	$1,899,000	$1,988,140
Benefit Cost Ratio	**0.84**	**1.3**	**1.75**	**1.59**	**1.61**	**1.61**	**1.6**
Residential Gas Behavioral							
Benefits		$75,707	$251,020	$526,557	$559,022	$588,245	$615,871
Costs		$150,000	$247,220	$127,156	$124,506	$150,000	$150,000
Benefit Cost Ratio		**0.5**	**1.02**	**4.14**	**4.49**	**3.92**	**4.11**
Total Gas Portfolio							
Total Benefits	**$2,115,781**	**$2,579,728**	**$4,611,992**	**$5,320,803**	**$5,653,198**	**$5,937,943**	**$6,208,104**
Total Costs	**$2,038,530**	**$1,851,393**	**$2,684,480**	**$3,125,027**	**$3,278,396**	**$3,496,502**	**$3,657,407**
Gas Portfolio Benefit Cost Ratio	**1.04**	**1.39**	**1.72**	**1.7**	**1.72**	**1.7**	**1.7**

Table 8: 2019-2025 Portfolio BCA Ratios							
NE:NY Electric EE Portfolio	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Societal Cost Test Ratio	2.86	2.87	2.75	3.36	2.53	2.65	2.76
Utility Cost Test Ratio	3.92	3.63	2.54	3.23	4.24	4.61	4.71
Ratepayer Impact Measure Test Ratio	0.67	0.73	0.82	0.92	1	1.03	1.04
NE:NY Gas EE Portfolio	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Societal Cost Test Ratio	1.04	1.31	1.72	1.85	1.72	1.7	1.7
Utility Cost Test Ratio	0.89	1.81	2.77	1.86	1.56	1.75	1.73
Ratepayer Impact Measure Test Ratio	0.38	0.54	0.63	0.61	0.58	0.62	0.62